Docket #: S10-148

Touch-Free Control of Devices

A team of researchers from the Stanford Artificial Intelligence Laboratory have developed a portfolio of patented innovations that harness depth sensing technology to analyze human motion for touch-free control of devices and motion capture. This “Touch-Free Control of Devices” invention includes a new sensor modality and algorithms that facilitate a human-machine interaction using 3D visual cues from a camera, without additional devices or touch screens.

Additional Technologies in this Portfolio:
“Marker-less Tracking of Human and Articulating Bodies using Parallel Processing Hardware” (Stanford Docket S09-319)
“Marker-less Motion Capture with Time-of-Flight Sensors on Parallel Processing Hardware” (Stanford Docket S09-343)
“Detecting and Classifying Body Parts and Gestures in Range Images” (Stanford Docket S09-369)
“Ergonomic Touch-Free User Interfaces" (Stanford Docket S10-147)

Applications

- **Human-machine interface** for touch free interactions with devices such as:
  - computers - web-browsing, data entry
  - television - gesture-based remote controls
  - smart phones
  - gaming consoles
- **Motion capture** for:
  - animation
  - task demonstration and teaching for industrial and robotic applications
  - rehabilitation and athletics
- **Surveillance and security**

Advantages

- **Touch-free** - no surface has to be touched and no additional input device (such as a mouse, touchpad, or trackball is required)
- **No augmentation** of the scene is required (such as wearing a data glove or markers)

Publications

- Plagemann, Christian, et al. "Method and System for Touch-Free Control of Devices." U.S. Patent Application 13/030,071.

Patents

- Published Application: 20120212413
- Issued: 9,063,573 (USA)

Innovators

- Christian Plagemann
- Varun Ganapathi
- Sebastian Thrun
- Hendrik Dahlkamp

Licensing Contact

Imelda Oropeza

Senior Licensing Manager, Physical Sciences

Email